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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FISCHER, MARK L

ART UNIT

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2627

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,488	Applicant(s) KATO ET AL.	
	Examiner MARK FISCHER	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Amendment filed on March 30, 2009. Claims 1, 8, and 9 are currently amended, and claims 2-7 are original.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

3. Claims 1, 8, and 9 are objected to because of the following informalities:
 - In claim 1, line 25, it is suggested that “desired target quality” be changed to --a desired target quality--. It is also suggested that this change be made to claims 8 and 9 which also use this term.
 - Claim 9, line 4, "the information recording apparatus" should be changed to --an information recording apparatus--.
 - Claim 9, line 8, “said recording device" should be changed to --a recording device--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 14-17 recites the limitations “the link power being the recording power, the recording power gives the reproduction quality in the second linear velocity, the reproduction quality measured by said measuring device”. These limitations appear to have grammatical problems and do not flow well with each other which makes the claim difficult to interpret. Also, claims 8 and 9 have the same problem.

In claim 1, the terms “recording power” and “reproduction quality” appear in multiple instances, and are used to represent a fixed value in some instances, and are also used to represent changing values in other instances, which causes problems of indefiniteness and also causes confusion when interpreting the claim. For example, in line 14 “recording power” appears to representing a set value, but then later in line 19 “recording power” appears to be representing a variable value. Another example, “reproduction quality” in line 15 appears to be representing a set value, but later in line 26 “reproduction quality” appears to be representing a changing value. These examples may not be the only instances that this indefiniteness and confusion occurs. Also, claims 8 and 9 have the same problem.

In claim 9, the limitation “a program of instructions executable by a computer provided in the information recording apparatus, to make the computer function as...” is indefinite because the claim as currently presented can be interpreted as saying that the program of instructions on their own can make the computer function, and thus the claim as currently

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presented fails to explicitly claim that the execution (emphasis added) of the program of instructions is what makes the computer function.

In addition, claims 2-7 are also rejected for dependence on parent claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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9. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (JP Pub. No. 2003-085760) in view of Takeda (US Pat. No. 7,095,691 B2) further in view of Ogawa et al. (U.S. Pat. No. 7,088,665 B2, hereinafter Ogawa).

Regarding claim 1, Suzuki discloses an information recording apparatus comprising: a recording device for recording record information onto an information recording medium, in which a recording speed can be changed to at least first and second linear velocities and which supports the first and second linear velocities (§ [0007]), by irradiating laser light with a variable recording power (§ [0020]); a measuring device for measuring reproduction quality of the record information by reproducing the record information recorded at the first linear velocity, upon the recording speed being changed from the first linear velocity to the second linear velocity (§ [0020]); a first calculating device for calculating a link power, the link power being the recording power, the recording power gives the reproduction quality (β_{up}) in the second linear velocity, the reproduction quality measured by said measuring device (§ [0020]), on the basis of correlation information for representing a correlation between the recording power in the second linear velocity and the reproduction quality related to the record information (§ [0020]); and an adjusting device for adjusting the recording power, by a predetermined adjustment amount, upon the recording speed being changed from the first linear velocity to the second linear velocity (§ [0029]). Suzuki does not explicitly disclose that a link power is the recording power which gives the reproduction quality measured by the measuring device in the second linear velocity.

However, Takeda discloses (Fig. 15) that when recording strategies are changed (changed from 100 to 200), calculating a recording power level (P_L) for the new recording strategy (200) which attains reproduced signal quality (β_{up}) equivalent to the reproduced signal quality (β_{up}) of the

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old recording strategy (100) such that the recording strategy can be changed without degrading reproduced signal quality (col. 12, line 58 to col. 13, line 13). Suzuki does not explicitly disclose adjusting the recording power, by a predetermined adjustment amount at a time in stages or in a predetermined change rate in continuity, such that the recording power changes from the link power to a reference power which is the recording power which gives desired target quality as the reproduction quality and thereby the reproduction quality of the record information gradually or stepwisely changes from the reproduction quality measured by said measuring device to the desired target quality. However, Ogawa discloses adjusting the recording power, by a predetermined adjustment amount at a time in stages or in a predetermined change rate in continuity (see Fig. 7B), such that the recording power changes from the link power (Fig. 6, low β value) to a reference power (Fig. 6, high β value) which is the recording power which gives desired target quality as the reproduction quality and thereby the reproduction quality of the record information gradually or stepwisely changes from the reproduction quality measured by said measuring device to the desired target quality (col. 8, lines 30-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Suzuki of changing a recording strategy by changing the recording speed from a first linear velocity to a second linear velocity which involves changing of a write strategy, with the teachings of Takeda which teaches a way of switching from one write strategy to another without degrading reproduced signal quality, with the motivation to maintain reproduced signal quality when changing recording strategy (i.e. changing linear velocity); and to combine the teachings of Suzuki in view of Takeda with Ogawa with the motivation to lower the probability

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of record errors by gently changing power towards a target value as opposed to abruptly changing power.

Regarding claim 2, Suzuki discloses that the measuring device measures the reproduction quality by reproducing the record information recorded immediately before the recording speed is changed from the first linear velocity to the second linear velocity (¶ [0020]).

Regarding claim 3, Suzuki discloses that the predetermined adjustment amount or the predetermined change rate is variable (¶ [0029]).

Regarding claim 4, Suzuki discloses that the adjusting device adjusts the recording power such that the recording power changes to the reference power if a difference between the link power and the reference power is equal to or less than a predetermined amount (¶ [0029]).

Regarding claim 5, Suzuki discloses further comprising a second calculating device for preparing the correlation information and for calculating the reference power, by reproducing test information which is the record information recorded for test by the recording device while the recording power is changed (¶ [0023]).

Regarding claim 6, Suzuki discloses that the reproduction quality includes at least one of an asymmetry value, a jitter value and a reproduction error rate (¶ [0017]).

Regarding claim 7, Suzuki discloses a controlling device for controlling the recording device to record at least one of the correlation information prepared by the second calculating device and information as for the reference power calculated by the second calculating device, onto the information recording medium (¶ [0028]).

Regarding claim 8, see the rejection of claim 1.

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10. Claims 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Takeda further in view of Ogawa furthermore in view of Nagano (US Pat. No. 7,053,919 B2).

Regarding claim 9, see the rejection of claim 1, and also note that Suzuki in view of Takeda further in view of Ogawa does not explicitly disclose a computer program product for tangibly embodying a program of instructions executable by a computer provided in the information recording apparatus, to make the computer function as at least one portion of a first calculating device, a measuring device and an adjusting device. However, Nagano discloses a computer program product (i.e. computer program code) for tangibly embodying a program of instructions executable by a computer (CPU) provided in the information recording apparatus (see Claims 17-19 of Nagano), to make the computer perform a power control operation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Suzuki in view of Takeda further in view of Ogawa with Nagano with the motivation to be able to control an information recording apparatus to function to perform the invention of Suzuki in view of Takeda further in view of Ogawa.

Response to Arguments

11. Applicant's amendment to claim 9 has overcome the rejection under 35 U.S.C. 101, and the rejection has been withdrawn.

12. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK FISCHER whose telephone number is (571) 270-3549. The examiner can normally be reached on Monday-Friday from 9:00AM to 6:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Fischer/
Examiner, Art Unit 2627
5/22/2009

/William J. Klimowicz/
Primary Examiner, Art Unit 2627